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SACRED LANDSCAPES AND PROFANE STRUCTURES: HOW OFFSHORE WIND POWER CHALLENGES THE ENVIRONMENTAL IMPACT REVIEW PROCESS

JAY WICKERSHAM*

Abstract: The review of the 420-megawatt Cape Wind project proposed for Nantucket Sound, being conducted under the National Environmental Policy Act (NEPA) and the Massachusetts Environmental Policy Act (MEPA), challenges existing environmental review laws and programs. First, the review shows how NEPA and MEPA can provide a forum for crystallizing government policy; here, on siting and reviewing offshore wind power projects. Second, the review raises concerns that in creating a system of planning and regulating the ocean, we might zone out renewable energy projects, the way we have allowed affordable housing and other social needs to be zoned out of the land. Finally, the Cape Wind review dramatizes how our cult of wilderness, with its presumption that human actions always harm the natural environment, can impede the development of a truly sustainable approach to environmental law and policy.

INTRODUCTION

The 420-megawatt Cape Wind Associates project proposed for Nantucket Sound would be, if constructed, the first major offshore wind power facility in the United States, and one of the largest in the world.¹ The review of this project under the National Environmental Policy Act (NEPA)² and the Massachusetts Environmental Policy Act

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¹ See CAPE WIND ASSOCS., PROJECT AT A GLANCE, at <http://www.capewind.org/index.htm> (last visited Jan. 31, 2004) [hereinafter CAPE WIND ASSOCS., PROJECT AT A GLANCE].

² 42 U.S.C. §§ 4321–4347 (2000).

(MEPA)³ is ongoing, and any conclusions on its outcome would be premature. Nevertheless, I would like to respond to three issues that the review has raised:

- (1) Is the Cape Wind project ripe for review under NEPA and MEPA, or should we stay the process until a broader planning and policy context has been established? I argue that the NEPA/MEPA review is fulfilling its goal of open and informed government decisionmaking, and that it shows how individual project reviews can provide a forum for making new policy.
- (2) Should we explore the development of a system of planning and regulating the ocean? My answer is a qualified yes; I urge caution, based on what we can learn from our mistakes in zoning the land.
- (3) What has the review revealed about the unstated assumptions that underlie opposition to the project? I argue that the Cape Wind review dramatizes the ways in which our cult of wilderness, accompanied by the presumption that human actions must always harm the natural environment, may impede the development of a truly sustainable approach to environmental law and policy.

I. THE PROJECT AND THE REVIEW TO DATE

As currently proposed, the Cape Wind project would consist of 130 offshore wind turbine units, generating up to 420 megawatts of electrical power.⁴ Each turbine would be mounted at the top of a tubular steel tower, at a height of 262 feet above mean sea level.⁵ The turbines would be powered by three vanes, each 164 feet in length.⁶ The maximum height of each unit when a vane is extended directly upward would be 426 feet—approximately the height of a thirty-story office tower.⁷

³ MASS. GEN. LAWS ch. 30, §§ 61–62H (2002).

⁴ CAPE WIND ASSOCS., PROJECT AT A GLANCE, *supra* note 1.

⁵ CAPE WIND ASSOCS., HOW WIND TURBINES WORK, at <http://www.capewind.org/index.htm> (last visited Jan. 31, 2004).

⁶ SAVE OUR SOUND, FREQUENTLY ASKED QUESTIONS, at <http://www.saveoursound.org/faq.html> (last visited Jan. 31, 2004) [hereinafter SAVE OUR SOUND, FREQUENTLY ASKED QUESTIONS].

⁷ MASS. EXECUTIVE OFFICE OF ENVTL. AFFAIRS, CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM, EOEa No. 12643

The towers would be spaced on a grid approximately one-half mile apart.⁸ The location is a twenty-four square mile area of shallow water at the center of Nantucket Sound, outside of the shipping channels, known as Horseshoe Shoal.⁹ Electrical cables laid on the seabed would connect the towers to one another and to the onshore electrical grid in Cape Cod.¹⁰ At the nearest points to land, the towers would be located over four miles from Point Gammon in Yarmouth, Cape Cod, over eight miles from Edgartown on Martha's Vineyard, and thirteen miles from Nantucket.¹¹ The total power generation of the project at its peak would be 420 megawatts.¹² Average generation, based on wind speeds over the course of the year, is estimated to be 170 megawatts.¹³

In November, 2001, the proponent, Cape Wind Associates, filed an Environmental Notification Form with the MEPA Office¹⁴ and a permit application with the New England District of the U.S. Army Corps of Engineers (Corps), the lead federal agency for review under NEPA.¹⁵ After a coordinated six-month scoping process that involved over a dozen federal, state, and regional agencies, in April, 2002, the MEPA Office issued the scope for the Environmental Impact Report (EIR) to be submitted and reviewed under MEPA.¹⁶ In June, 2002, the Corps issued its own scope, which incorporated the MEPA scope by reference, for the Environmental Impact Statement (EIS) to be submitted and reviewed under NEPA.¹⁷

1 (2002), available at <http://www.state.ma.us/envir/mepa/downloads/12643cert.doc> (last visited Jan. 31, 2004) [hereinafter MEPA Scope].

⁸ CAPE WIND ASSOCS., PROJECT AT A GLANCE, *supra* note 1.

⁹ SAVE OUR SOUND, FREQUENTLY ASKED QUESTIONS, *supra* note 6.

¹⁰ CAPE WIND ASSOCS., PROJECT AT A GLANCE, *supra* note 1.

¹¹ MASS. TECH. COLLABORATIVE, CAPE & ISLANDS OFFSHORE WIND STAKEHOLDER PROCESS, <http://www.mtpc.org/offshore/index.htm> (last visited Jan. 23, 2004).

¹² CAPE WIND ASSOCS., PROJECT AT A GLANCE, *supra* note 1.

¹³ SAVE OUR SOUND, FREQUENTLY ASKED QUESTIONS, *supra* note 6. The project as originally described would have involved 170 turbines, each with a maximum generating capacity of 2.5 megawatts, and spread over a somewhat larger area. MEPA Scope, *supra* note 7, at 1.

¹⁴ See MASS. REGS. CODE tit. 301, §§ 11.01–.07 (2003); CAPE WIND ASSOCS., PERMITTING UPDATE, at <http://www.capewind.org/index.htm> (last visited Nov. 20, 2003).

¹⁵ See 42 U.S.C. §§ 4321–4347 (2000); U.S. ARMY CORPS OF ENG'RS, CAPE WIND DATA TOWER PERMIT APPLICATION FACT SHEET, at <http://www.nae.usace.army.mil/projects/ma/ccwf/farmfact.pdf> (Oct. 20, 2003).

¹⁶ MEPA Scope, *supra* note 7 at 4–12. Although the project is located in federal waters, beyond the three-mile limit of state waters, state permits and therefore MEPA review are required for the installation of the cables on the seafloor. *Id.* at 2–3.

¹⁷ U.S. ARMY CORPS OF ENG'RS, ENVIRONMENTAL IMPACT STATEMENT SCOPE OF WORK, WIND POWER FACILITY PROPOSED BY CAPE WIND ASSOCIATES, LLC, June 2002, available at

The draft of the joint EIS/EIR has not yet been submitted to the agencies. Following the public comment period for the draft EIS/EIR, both the Corps and the Massachusetts Secretary of Environmental Affairs must find the document adequate.¹⁸ After findings of adequacy, the final EIS/EIR will be prepared, submitted, and reviewed.¹⁹ Once that document is found adequate, the project moves on to the permitting stage. The project will require up to seventeen different federal, state, regional, and local permits and approvals, each with its own standards, procedures, and opportunity for appeal.²⁰

II. IS THE CAPE WIND PROJECT RIPE FOR REVIEW?

Project opponents have argued that the NEPA/MEPA review process should be stayed because opportunities for public involvement have been lacking, because the review has been purely federal without adequate state involvement, and because the review will not produce adequate information.²¹ The principal organized opposition group, the Alliance to Protect Nantucket Sound (the Alliance), has taken the posi-

<http://www.nae.usace.army.mil/projects/ma/ccwf/windscope.pdf> (last visited Jan. 31, 2004) [hereinafter Corps Scope].

¹⁸ 40 C.F.R. § 1502.9 (2003); MASS. REGS. CODE tit. 301, § 11.08(8)(b) (2003).

¹⁹ 40 C.F.R. § 1502.19; MASS. REGS. CODE tit. 301, § 11.08(8)(c).

²⁰ In addition to NEPA review, federal requirements include: a permit from the Corps under section 10 of the Rivers and Harbors Appropriation Act of 1899, 33 U.S.C. § 401–413, 33 C.F.R. § 323; review by the U.S. Fish and Wildlife Service under the Endangered Species Act, 16 U.S.C. §§ 1531–1544, 50 C.F.R. § 17; review by the Federal Aviation Administration regarding air safety, 49 U.S.C. § 44718, 14 C.F.R. § 77; and review by the U.S. Coast Guard regarding navigational safety, 33 C.F.R. § 64. In addition to MEPA review, state requirements include approval by the Massachusetts Energy Facilities Siting Board under MASS. GEN. LAWS ch. 164, § 69H (2002); a license from the Massachusetts Department of Environmental Protection (MDEP) under MASS. GEN. LAWS ch. 91 and MASS. REGS. CODE tit. 310, §§ 9.01–.55 (codification of the public trust doctrine); a Water Quality Certificate by MDEP under section 401 of the federal Clean Water Act, 33 U.S.C. § 1341 and MDEP regulations, MASS. REGS. CODE tit. 314, §§ 9.01–.13; federal consistency review by the Massachusetts Office of Coastal Zone Management (MCZM) under the Coastal Zone Management Act, 16 U.S.C. § 1451–1456, MCZM regulations, MASS. REGS. CODE tit. 301, §§ 21.01–.12; and finally, review by the Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement, under the Massachusetts Endangered Species Act, MASS. GEN. LAWS ch. 131A, MASS. REGS. CODE tit. 321, § 8.00. Regional and local requirements include a Development of Regional Impact (DRI) permit from the Cape Cod Commission, pursuant to the Cape Cod Commission Act, 1989 Mass. Acts 716 and local Orders of Conditions from the Barnstable and Yarmouth Conservation Commission under the Massachusetts Wetlands Protection Act, MASS. GEN. LAWS ch. 131, § 40, and MASS. REGS. CODE tit. 310, §§ 10.01–.58 (and hence Superseding Orders from MDEP if the local Orders are appealed).

²¹ *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 288 F. Supp. 2d 64, 67 (D. Mass. 2003).

tion that the review should be halted because "the regulatory process to govern [the placement of offshore wind power] does not exist" and because the regulatory process to date has not been adequate or impartial.²² Elected officials have voiced similar views. In a joint letter to Massachusetts Governor Mitt Romney dated February 26, 2003, Massachusetts Attorney General William Reilly and Congressman William Delahunt called the NEPA process "a limited review" that was "woefully inadequate to address the many environmental, economic and public policy concerns" raised by the project.²³ They also wrote that the process "did not even begin to address the state interest in the appropriate use of one of the Commonwealth's most precious natural resources."²⁴ Senator Edward Kennedy, in a letter to the *Cape Cod Times* in August, wrote that although the project needed to receive "enough state and federal scrutiny to justify its going forward, . . . so far . . . Cape Wind hasn't met that test, and I doubt they ever will."²⁵

In response, let us review the process so far. The initial ENF filed for the Cape Wind project was longer and more detailed than many EIR/EIS submittals.²⁶ The NEPA/MEPA scoping process lasted seven months, from the filing of the ENF to the issuance of the Corps scope.²⁷ During that time, the federal and state agencies jointly hosted six public hearings and held two oceanic site visits.²⁸ Hundreds of people spoke at the public hearings.²⁹ The agencies received thousands of written comments; more than once the MEPA analyst for the project re-

²² *Id.*; see also SAVE OUR SOUND, FREQUENTLY ASKED QUESTIONS, *supra* note 6.

²³ Letter from Thomas F. Reilly, Attorney General of Massachusetts, and William Delahunt, U.S. Congressman for the Tenth District of Massachusetts, to Mitt Romney, Governor of Massachusetts (Feb. 26, 2003) (on file with author).

²⁴ *Id.*

²⁵ Sen. Edward M. Kennedy, *Create a National Wind Energy Policy*, CAPE COD TIMES, Aug. 8, 2003, <http://www.capecodonline.com/special/windfarm/myview8.htm> (last visited Jan. 23, 2004).

²⁶ ENVTL. SCI. SERVS., CAPE WIND PROJECT, at http://www.essgroup.com/cape_wind_project.htm (last visited Nov. 20, 2003). An expanded Environmental Notification Form was completed for MEPA Review. *Id.*

²⁷ Under the NEPA regulations issued by the Council on Environmental Quality, the federal scoping process has no minimum requirements for length or public hearings. 40 C.F.R. § 1501.7 (2003). The state scoping process under MEPA lasts only 30 days, unless the proponent consents to an extension, as Cape Wind did; there is a informal public consultation session, but no required formal hearing, MASS. REGS. CODE tit., 301 § 11.06(2)-(3) (2003).

²⁸ Interview with Arthur Pugsley, Environmental Analyst, MEPA Office (Sept. 25, 2003) (on file with author).

²⁹ *Id.*

ceived so many email comments that his electronic mailbox was shut down.³⁰

During the scoping process, a dozen or more federal, state, and regional agencies—most of which will ultimately issue permits on the project—met on a weekly basis to discuss the contents of the scope.³¹ Federal agencies involved in the scoping included the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service.³² State and regional agencies included the Massachusetts Department of Environmental Protection, the Massachusetts Department of Environmental Management (now the Department of Conservation and Recreation), the Massachusetts Department of Fisheries, Wildlife and Environmental Law Enforcement, the Massachusetts Office of Coastal Zone Management, the Energy Facilities Siting Board, and the Cape Cod Commission.³³ The agencies took the collective position, reflected in the MEPA and Corps scopes, that a unified set of federal and state documents should examine the full range of project impacts, without regard for questions of territorial or subject matter jurisdiction.³⁴ As further evidence of the level of state involvement, the MEPA Office issued the initial scope for the state-level Environmental Impact Report (EIR) in April 2002.³⁵ The Corps then incorporated the MEPA scope by reference as the basis for the federal Environmental Impact Statement (EIS) as well, while requiring certain elements to be added to the document.³⁶

The NEPA/MEPA review process has served to draw broad public attention to the project, extending well beyond those who commented directly. The *Cape Cod Times* maintains a website devoted solely to the project.³⁷ On that website are key government documents, including

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ MEPA Scope, *supra* note 7, at 3. This approach helps satisfy the mandate of the federal Coastal Zone Management Act, which requires a finding by the state that a federal action, such as a Corps permit, is consistent to the maximum extent practicable with enforceable and federally-approved state policies for the coastal zone. 16 U.S.C. § 1456(c)(1)(A) (2000); MASS. REGS. CODE tit. 301, §§ 21.01–.12 (2003). For a more detailed discussion of federal consistency review and how it might affect offshore wind power projects, see Rusty Russell, *Neither Out Far Nor In Deep: The Prospects for Utility-Scale Wind Power in the Coastal Zone*, 31 B.C. ENVTL. AFFAIRS L. REV. 221 (2004).

³⁵ MEPA Scope, *supra* note 7.

³⁶ Corps Scope, *supra* note 17.

³⁷ See <http://www.capecodonline.com/special/windfarm/index.htm> (last visited Nov. 20, 2003).

the NEPA and MEPA scopes, an archive of the paper's articles going back over the past two years, and links to many other sites, including those of the proponent and the Alliance.³⁸ The project has attracted national and international press coverage.³⁹ Finally, it has sparked a variety of proposals for legislative and executive action at both the state and federal level.⁴⁰

All of this participation by permitting agencies and the public has occurred just to develop the scope of the EIS/EIR.⁴¹ The process of actually reviewing the documents,⁴² which will undoubtedly be even more intense, has not even begun. This has not been a "limited" or "inadequate" review; in my experience, the review process for the Cape Wind project is the best recent example in Massachusetts of a NEPA/MEPA review that has fulfilled its core functions of public input and informed agency decisionmaking.⁴³

But even if there is a process of informed decisionmaking at work, are we making the right decision? Do NEPA or MEPA require the development of an overarching federal or state policy for offshore wind development, or of a framework for the comprehensive planning and zoning of ocean resources, before agencies make individual decisions on the Cape Wind project?

The Supreme Court squarely addressed this issue in 1976, in *Kleppe v. Sierra Club*.⁴⁴ The Department of the Interior proposed to grant four individual coal leases in Montana and Wyoming.⁴⁵ Several environmental organizations sued, seeking to halt the leases until the Department had prepared a comprehensive EIS examining the impacts of coal leasing across the Northern Great Plains region, a large area encompassing portions of four states.⁴⁶ The Court overturned a decision by the District of Columbia Circuit and permitted the individual coal leases to proceed.⁴⁷

The *Kleppe* Court's decision identified the two circumstances in which a broad-scale comprehensive or programmatic EIS might be

³⁸ *Id.*

³⁹ See, e.g., Elinor Burkett, *A Mighty Wind*, N.Y. TIMES, June 15, 2003, § 6 (Magazine) at 48; *A Tempest off Nantucket*, THE ECONOMIST, Sept. 13, 2003, at 30.

⁴⁰ See H.R. 5156, 107th Cong. (2002) (Cubin Bill).

⁴¹ 42 U.S.C. §§ 4321-4347 (2000); MASS. REGS. CODE tit. 301, §§ 11.01-17 (2003).

⁴² 42 U.S.C. § 4332; MASS. REGS. CODE tit. 301, § 11.08.

⁴³ See 42 U.S.C. § 4321; MASS. REGS. CODE tit. 301, § 11.01.

⁴⁴ 427 U.S. 390 (1976).

⁴⁵ *Id.* at 395.

⁴⁶ *Id.* at 394-96.

⁴⁷ *Id.* at 394.

required.⁴⁸ First, an agency must prepare an EIS if it is undertaking a coherent plan or program, amounting to a major federal action, that requires NEPA review.⁴⁹ If an agency decides that there is a plan or program that requires an EIS, it may employ the process known as tiering, in which it prepares an EIS for a program, plan, or policy to be followed by narrower, site-specific reviews.⁵⁰ Nevertheless, the decision on whether or not there is a broad program or action that requires NEPA review is at the discretion of the agency, subject only to deferential judicial review under the "arbitrary and capricious" standard.⁵¹ In the case of Cape Wind, it is clear that the Corps has not undertaken any plan or program of seeking to permit wind farms in the coastal zone; the agency is purely reacting to private proposals that require permits.⁵² In these circumstances, the agency's decision not to prepare a programmatic EIS at this time is fully defensible.⁵³

Even if an agency has not undertaken a plan or program, a broader, comprehensive EIS may be required if it is faced with multiple site-specific proposals for federal action within the same region that might pose cumulative impacts.⁵⁴ Both the CEQ and the MEPA regulations require that individual project reviews address cumulative impacts caused by other existing and proposed activities.⁵⁵ Critics of the current NEPA process have raised fears of a "gold rush" of private wind farm developments with just such cumulative impacts.⁵⁶ These fears appear to have been overstated, however; two years after the

⁴⁸ *Id.* at 399.

⁴⁹ *Id.* at 399; see 40 C.F.R. § 1502.4(a) (2003) ("Proposals . . . which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.").

⁵⁰ 40 C.F.R. § 1508.28. The MEPA Regulations contain comparable provisions allowing for special review procedures, with the consent of the proponent. MASS. REGS. CODE tit. 301, § 11.09(1) (2003).

⁵¹ *Churchill County v. Norton*, 276 F.3d 1060, 1071, 1079 (9th Cir. 2001).

⁵² See *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 288 F. Supp. 2d 64, 67 (D. Mass. 2003).

⁵³ See *Kleppe*, 427 U.S. at 402.

⁵⁴ *Id.* at 409–10; *Churchill County*, 276 F.3d at 1074–75.

⁵⁵ See *Hanley v. Kleindienst*, 471 F.2d 823, 830–31 (2d Cir. 1972); 40 C.F.R. §§ 1501.7, 1508.25(a)(2) (cumulative impacts review under NEPA); MASS. REGS. CODE tit. 301, § 11.07(6)(h) (cumulative impacts review under MEPA).

⁵⁶ See, e.g., John Leaning, *Reilly Targets Wind Farm 'Gold Rush'*, CAPE COD TIMES, Oct. 18, 2002, <http://www.capecodonline.com/special/windfarm/reillytargets18.htm> (last visited Jan. 23, 2004).

Cape Wind review began, it remains the only viable proposal in all of New England.⁵⁷

The Cape Wind process shows how the reviews of individual projects under NEPA/MEPA can actually serve to crystallize policy in this new and important arena.⁵⁸ It is a settled principle of administrative law that an agency may make policy through individual decisions, as well as through the adoption of plans or regulations.⁵⁹ The Cape Wind review is teaching us more about the scientific, economic, legal, and political questions raised by offshore wind power than any expert commission could have done. No one can claim that there has been a lack of public debate on the issues; in fact, the review has brought the issues to the attention of the legislative and the executive branches, at both the state and federal level, giving these branches ample time to insert themselves through new legislation or regulations, if they so choose.⁶⁰ The NEPA/MEPA process has served its desired role of opening up government decisionmaking to public scrutiny and of ensuring the consideration of environmental issues in those decisions.⁶¹ In this way the

⁵⁷ As of this writing, the Corps had closed the review of all but one of a series of wind farm projects proposed in Massachusetts waters by another company, Winergy, because the proponent had failed to provide the minimum information on its plans. John Leaning, *Winergy Tower Bid Tabled After Missed Deadline*, CAPE COD TIMES, Oct. 4, 2003, <http://www.capecodonline.com/special/windfarm/winergytower4.htm> (last visited Jan. 24, 2003).

⁵⁸ For recent examples of MEPA reviews through the Massachusetts Executive Office of Environmental Affairs (EOEA) that established new policy, see EOEA No. 12083 (review of Fan Pier development on South Boston waterfront established precedents for review of cumulative transportation impacts and standards for state approval of municipal harbor plans); EOEA Nos. 3247/5146 and 10458 (review of Logan Airport expansion gave rise to first-in-the-nation cap on total NOx emissions at airport); and EOEA No. 5834 (review of National Guard training at Massachusetts Military Reservation on Cape Cod led to legislation establishing new state environmental commission charged with oversight of military training as set forth in Memorandum of Understanding with U.S. Department of Army). Available at, <http://www.state.ma.us/envir/mepa/secondlevelpages/recentdecisions.htm> (last visited Jan. 24, 2003).

⁵⁹ SEC v. *Chenery Corp.*, 332 U.S. 194, 202 (1947). On similar grounds, appellate courts frequently wait until several lower courts have tackled an issue before issuing a ruling that will have broad precedential effect upon future policy.

⁶⁰ Beth Daly, *Wind Farm Faces New Challenge; No Formal Position on Cape Wind Farm*, BOSTON GLOBE, July 25, 2003, at C24.

⁶¹ "[Compliance with NEPA] ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger public audience." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). "NEPA's dual mission is thus to generate federal attention to environmental concerns and to reveal that federal consideration for public scrutiny." *Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 147 (D.C. Cir. 1985).

review can help guide us to an outcome that establishes valuable precedent and policy for future wind power projects.

III. WHAT CAN OUR EXPERIENCE WITH ZONING THE LAND TEACH US ABOUT REGULATING THE OCEAN?

In calling for a stay on the NEPA/MEPA review of the Cape Wind project, opponents have called for the comprehensive planning and zoning of ocean resources.⁶² In June, 2003, the Massachusetts Executive Office of Environmental Affairs created a twenty-three-member Ocean Management Task Force, charged with developing "principles to guide statewide planning and governance efforts for ocean resources."⁶³ Regardless of whether the Cape Wind review is stayed, I believe that all parties would support a more thoughtful and comprehensive approach to the management of the ocean in order to provide a context for the review of future projects.⁶⁴ But I want to offer some cautions on the full scope of what such a policy framework should encompass.

The concept of planning and zoning ocean resources arises from an analogy to the land.⁶⁵ Local zoning of land uses is the most longstanding, and most pervasive, form of governmental regulation of the

⁶² See sources cited *supra* notes 21–25. Project opponents have argued in particular that the review should be stayed because the proponent cannot show any possessory interest in federal waters in the absence of a statutory system of leasing renewable energy sites. A U.S. District Court rejected this argument in a recent challenge to the Corps permitting of Cape Wind's test tower. *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 288 F. Supp. 2d 64, 78–79 (D. Mass. 2003). As the court noted, the Corps regulations under the Rivers and Harbors Act are "a part of a scheme designed to keep the Corps out of property disputes." *Id.* at 77. Even if a leasing scheme were ultimately imposed that rendered the Cape Wind review moot, no environmental harm would have been imposed; quite to the contrary, Cape Wind has arguably conferred a public benefit by proceeding at risk with what amounts to a privately-funded research effort into the full range of environmental issues arising from offshore wind power.

⁶³ See MASS. OFFICE OF COASTAL ZONE MGMT., ENVIRONMENTAL AFFAIRS SECRETARY CHARGE TO THE MASSACHUSETTS OCEAN MANAGEMENT TASK FORCE, at <http://www.state.ma.us/czm/omitaskforcecharge.htm> (last visited Dec. 4, 2003). In December, 2003, the Task Force issued draft principles and preliminary recommendations for public comment, which are available at <http://www.state.ma.us/czm/oceanmgmtinitiative.htm> (last visited Jan. 24, 2004).

⁶⁴ See Greg Watson & Fara Courtney, *Nantucket Sound Offshore Wind Stakeholder Process* 31 B.C. ENVTL. AFF. L. REV. 263, 271–73 (2004); see also MASS. OCEAN MGMT. TASK FORCE, PRELIMINARY RECOMMENDATION #1, *supra* note 63 (recommending that the Secretary of Environmental Affairs introduce legislation for Ocean Resource Management Act, including creation of ocean resource management plans).

⁶⁵ See *infra* notes 69–74 and accompanying text.

land in this country, dating back to the early twentieth century.⁶⁶ Zoning not only predates our modern environmental laws; it also springs from very different political, social, and legal roots.⁶⁷ If we are going to talk about zoning the ocean, we need to acknowledge and confront that legacy—and in particular, its heritage of exclusion.⁶⁸

Zoning, as it historically has been conducted in the United States, has been regulation without planning.⁶⁹ Zoning was a fad that swept the country in the 1920s, along with the Charleston, the bob haircut, and prohibition gin.⁷⁰ But legal fads last longer than dances and hairstyles. From the start, local zoning codes were adopted in a thoroughly ad hoc manner, without reliance on technical plans and studies or professional expertise.⁷¹ Ever since, scholars of zoning have contended that local codes should be made consistent with a local comprehensive plan, as the original Standard State Zoning Enabling Act would have required.⁷² Today, the majority of states—though not Massachusetts—have enacted the planning consistency standard.⁷³ By requiring that zoning be consistent with a local comprehensive plan, the planning consistency standard seeks to ground zoning in solid technical studies, and to provide a greater degree of predictability in project decisions.⁷⁴ Similar principles should apply to the ocean. Thus, at a minimum, we should delay any rush to create a system of ocean zoning until we have finished the hard work of planning: gathering technical data and developing management strategies that will balance the full range of public goals.

⁶⁶ RICHARD F. BABCOCK, *THE ZONING GAME* 5 (1966); SEYMOUR I. TOLL, *ZONED AMERICAN* 3 (1969).

⁶⁷ See BABCOCK, *supra* note 66, at 3.

⁶⁸ See *id.* at 68–69.

⁶⁹ *Id.* at 143.

⁷⁰ See BABCOCK, *supra* note 66, at 3–6; TOLL, *supra* note 66, at 188–94.

⁷¹ See, e.g., *Bell v. City of Elkhorn*, 364 N.W.2d 144, 148 (Wis. 1985) (holding no comprehensive plan was needed to guide a planning commission's zoning laws); *Connor v. Township of Chanhassen*, 81 N.W.2d 789, 796–97 (Minn. 1957) (invalidating a zoning ordinance not as inconsistent with the comprehensive plan, but as an impermissible taking). See generally Charles M. Haar, *In Accordance with a Comprehensive Plan*, 68 HARV. L. REV. 1154 (1954).

⁷² TOLL, *supra* note 66, at 303; Haar, *supra* note 71, at 1156.

⁷³ A 1998 survey identified 26 states as giving legal weight to land use plans in zoning decisions. 1 EDWARD H. ZIEGLER, JR. ET AL., *RATHKOPF'S THE LAW OF ZONING AND PLANNING* § 12:11 to :17 (4th ed. 1998). For Massachusetts, see *Town of Granby v. Landry*, 170 N.E.2d 364, 367–68 (Mass. 1960) (upholding a zoning ordinance absent a comprehensive plan).

⁷⁴ 3 ZIEGLER, *supra* note 73, at § 36:20; Charles M. Haar, *The Master Plan: An Impermanent Constitution*, 20 LAW & CONTEMP. PROBS. 353, 365–66 (1955).

Second, conventional zoning has imposed a rigid separation of uses, discouraging the complex interplay of activities that characterizes both human and natural communities.⁷⁵ Most zoning codes, starting in the 1920s, have used a system of cumulative use districts.⁷⁶ Under a cumulative system, residential districts are the most restrictive.⁷⁷ Within commercial and then industrial districts, more allowable uses are added in each district.⁷⁸ More recently, zoning codes have turned to exclusive use districts.⁷⁹ Under the exclusive use system, commercial and industrial zones, like residential, are limited to that particular set of uses.⁸⁰ On land, the result has been an ever greater sorting out and separation of uses, as opposed to a more fine-grained mixing of different activities.⁸¹ Even more than the land, which is a patchwork of private land-holdings and activities, Nantucket Sound and other Massachusetts waters have historically supported a wide range of overlapping activities: from steamships to rowboats and from commercial fishing to bird-watching. Without careful attention to these issues, we run the risk of creating a regulatory system that would homogenize and impoverish the ways in which we use and enjoy the ocean in the future.⁸²

Thoughtful ocean planning could also redress the third and most flagrant flaw of land zoning: its heritage of exclusion.⁸³ Zoning did not sweep the country in the 1920s because of the desire to protect the environment or to provide an orderly public planning process for community growth.⁸⁴ As Richard Babcock wrote in his classic study, *The Zoning Game*: "zoning has provided the device for protecting the homogeneous, single-family suburb from the city."⁸⁵ To generalize the problem more broadly, zoning has empowered wealthy communities to exclude activities and uses that benefit society as a whole.⁸⁶ Once

⁷⁵ See BABCOCK, *supra* note 66, at 126.

⁷⁶ *Id.* at 127–30.

⁷⁷ *Id.* at 127.

⁷⁸ *Id.*

⁷⁹ *Id.* at 128–30.

⁸⁰ *Id.*

⁸¹ See JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* 152–77, 234–49 (1961); Jay Wickersham, *Jane Jacobs's Critique of Zoning: From Euclid to Portland and Beyond*, 28 B.C. ENVTL. AFF. L. REV. 547, 550–51, 553 (2001).

⁸² See discussion *infra* Part III.

⁸³ See BABCOCK, *supra* note 66, at 128–30; see also *APT Pittsburgh Ltd. P'ship v. Penn Township*, 196 F.3d 469, 476–77 (3d. Cir. 1999).

⁸⁴ See BABCOCK, *supra* note 66, at 6 ("The primary, if not exclusive, purpose in the 1920's was to protect the single family district . . .").

⁸⁵ *Id.* at 3.

⁸⁶ See *id.* at 6.

the legal barriers of exclusion have been erected, it is very hard to tear them down.⁸⁷ Just last fall, the Boston College Law School hosted a symposium on affordable housing.⁸⁸ There, speakers described the national efforts since the 1970s to undo the exclusionary effects of zoning the land, and the limited success of those efforts.⁸⁹

How can we avoid recreating the same problem of exclusion on the water? We need to look more closely at the question of public rights versus private rights in the ocean.⁹⁰ This is where the analogy to land zoning becomes questionable. Let us start on the beaches, where public rights, in the form of the public trust doctrine, lap at the land.⁹¹ Much of the opposition to the Cape Wind project derives from the argument of protecting views from the shoreline.⁹² In almost every other state, the public trust doctrine imposes a public easement upon privately owned beaches, securing for the public the right to enjoy the use of those beaches up to the high-tide mark.⁹³ Only in Massachusetts and Maine, thanks to colonial ordinances passed in 1641 and 1647, has the right of public access been limited to the low-tide mark⁹⁴—effectively putting up a “No Trespassing” sign on the sand.

So if one of the goals of an ocean management system were defined as protecting public views, one might make a plausible argument for more protective visual buffer zones around federal- and state-designated beaches, where there is a right of public access—for example, the Cape Cod National Seashore, Monomoy National Wildlife Refuge, and certain state parks and reserves.⁹⁵ But as for the rest of the shoreline, the question remains: why should the Commonwealth of Massachusetts protect views from beaches that Massachusetts citizens are not allowed to walk on?

⁸⁷ See *id.* at 15–16. Babcock wrote *The Zoning Game* before the famous *Mt. Laurel* decision. *S. Burlington County NAACP v. Mt. Laurel Township*, 336 A.2d 713 (N.J. 1975).

⁸⁸ See generally Symposium, *Twists in the Path from Mt. Laurel*, 30 B.C. ENVTL. AFF. L. REV. 433 (2003).

⁸⁹ See generally *id.*

⁹⁰ See *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 335, 358 (N.J. 1984).

⁹¹ See *id.* (citing *Borough of Neptune City v. Borough of Avon-by-the-Sea*, 294 A.2d 47, 54 (N.J. 1972)).

⁹² See Pam Belluck, *A Wind Power Plan Stirs Debate in Massachusetts*, N.Y. TIMES, Mar. 2, 2003, § 5 at 3.

⁹³ See *Matthews*, 471 A.2d at 358; *In re Op. of the Justices*, 313 N.E.2d 561, 565 (Mass. 1974).

⁹⁴ See *In re Op. of the Justices*, 313 N.E.2d at 565.

⁹⁵ See DEP'T OF CONSERVATION & RECREATION, DIV. OF STATE PARKS & RECREATION, MASSPARKS, at <http://www.state.ma.us/dem/listing.htm> (last visited Dec. 5, 2003) (listing Massachusetts's state parks).

Now let us venture out into deeper waters. The Massachusetts territorial waters extend three miles from the coast.⁹⁶ Beyond the low-tide mark, those waters are defined under the public trust, as codified by statute and regulation, as “Commonwealth tidelands,” in which private rights can only be created through the grant of a license by the commonwealth.⁹⁷ If these waters are held in trust for all citizens of Massachusetts, then all citizens of Massachusetts should have an equal say in their use. This is the key to overcoming the legacy of exclusion that has haunted land zoning. The owner of a beachfront house in Hyannis or Edgartown or Nantucket should have no more say in decisions over Nantucket Sound than a citizen of Boston, or Worcester, or the Berkshires—or a citizen of Salem or Fall River, who lives downwind from a polluting fossil-fuel powerplant.⁹⁸

Finally, if we are to review the Cape Wind project within a broader policy and planning context, we should not confine ourselves to the ocean. Any NEPA and MEPA review of an offshore wind power project, and any regime of planning and regulating ocean resources, should take into account the full range of environmental policy goals.⁹⁹ In particular, ocean management policies should advance, and not frustrate, environmental policies for air quality and climate change.¹⁰⁰ Dorothy Bisbee’s article analyzes in detail how wind power reduces air pollution and greenhouse gas emissions.¹⁰¹ I want to emphasize the numerical targets set by the Massachusetts legislative and executive branches to realize those benefits.

In 1997, as part of the deregulation of its electrical industry, Massachusetts introduced a requirement that all electric providers must incorporate renewable sources of power into their portfolios.¹⁰² The renewable energy portfolio standard must reach 5% by 2010, and it must increase 1% each year thereafter.¹⁰³ Given the commonwealth’s relatively flat topography, cloudy weather, and windy coastline, wind

⁹⁶ 33 C.F.R. § 329.12(a) (2003).

⁹⁷ MASS. GEN. LAWS ch. 91, §§ 1, 18 (2002); MASS. REGS. CODE tit. 310, § 9.03(2) (2003).

⁹⁸ On the potential of wind power to redress the disparate environmental impacts of fossil-fuel pollution sources upon minority and low-income communities, see Dorothy Bisbee, *NEPA Review of Offshore Wind Farms: Ensuring Emission Reduction Benefits Outweigh Visual Impacts*, 31 B.C. ENVTL. AFF. L. REV. 349 (2004).

⁹⁹ See *id.* at 353–58.

¹⁰⁰ See *id.*

¹⁰¹ *Id.* at 360–367.

¹⁰² See MASS. GEN. LAWS ch. 25A, § 11F.

¹⁰³ *Id.*

power is currently the only feasible internal source of large-scale renewable power generation.¹⁰⁴ If Massachusetts suppliers are to satisfy this statutory requirement from facilities within the state, Massachusetts will need to construct six renewable energy projects larger than Cape Wind by 2010, and one per year after that date.¹⁰⁵

How long would Massachusetts need to continue building wind power facilities of this scale? Let us look at the commonwealth's commitment to restraining greenhouse gas emissions. In 2001, the governors of the six New England states, including Massachusetts, and the premiers of the Eastern Canadian provinces, released a regional Climate Change Action Plan.¹⁰⁶ The Plan commits the region to a short-term goal of reducing greenhouse gas (GHG) emissions to 1990 baseline levels by the year 2010; a mid-term goal of reducing GHG emissions to 10% below 1990 levels by 2020; and a long-term goal of reducing GHG emissions by 75 to 85%, in order to stabilize climate change.¹⁰⁷

Denmark, a nation with approximately the same size population¹⁰⁸ as Massachusetts,¹⁰⁹ but significantly lower power consumption,¹¹⁰ seeks to achieve its long-term goal for GHG emissions by generating 50% of its electricity from wind power by the year 2050.¹¹¹ To achieve that goal will require building one wind power plant the size of Cape Wind every two years, for the next fifty

¹⁰⁴ See Stephen H. Burrington, *Global Warming, Energy, and Cape Cod*, CAPE CODDER, Oct. 17, 2002, http://www.clf.org/hot/global_warming_energy_and_cape_cod.htm (last visited Jan. 25, 2004).

¹⁰⁵ Under the renewable portfolio standard, the annual need for energy from new renewables after 2010 is estimated at 1968 Gigawatt-hours (Gwh). MASS. DIV. OF ENERGY RESOURCES, POLICY ANALYSIS, Tbl. 1, <http://www.state.ma.us/doer/programs/renew/rps.htm> (last visited Jan. 25, 2004). Cape Wind's annual output is estimated at 1491 Gwh. CAPE WIND ASSOCS., PROJECT AT A GLANCE, *supra* note 1.

¹⁰⁶ See COMM. ON THE ENV'T & THE NORTHEAST INT'L COMM. ON ENERGY, CONFERENCE OF NEW ENG. GOVERNORS & E. CAN. PREMIERS, CLIMATE CHANGE ACTION PLAN 2001 (Aug. 2001), http://www.negc.org/documents/NEG-ECP_CCAP.pdf (last visited Dec. 5, 2003) [hereinafter CLIMATE CHANGE ACTION PLAN 2001].

¹⁰⁷ *Id.* at 7.

¹⁰⁸ THOMAS M. McDEVITT, U.S. DEP'T OF COMMERCE, WORLD POPULATION PROFILE: 1998 A-8 (1998) (5,334 million).

¹⁰⁹ U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, MASSACHUSETTS: 2000 tbl. 1 (2002) (6,349 million).

¹¹⁰ See Russell, *supra* note 34, at 230.

¹¹¹ *Id.* Great Britain is currently planning to supply up to 20% of its energy needs from wind power. *Id.*

years¹¹²—all in a flat, well-populated country perhaps twice the size¹¹³ of Massachusetts.¹¹⁴

This policy framework has implications for the analysis of project alternatives for the Cape Wind project under NEPA and MEPA, as well as for the planning and regulation of ocean resources.¹¹⁵ The alternatives analysis should not focus on identifying a single “best” location in Massachusetts, or in New England. There may be feasible alternatives to Horseshoe Shoal—but that fact alone should not disqualify the location.¹¹⁶ To meet the stated public policy goals of Massachusetts for renewable energy, air pollution, and climate change will likely require many offshore wind farms at many different sites.¹¹⁷ That public policy goal must be incorporated into the NEPA/MEPA review of the project, and into any system of managing and regulating the ocean.¹¹⁸ We cannot permit local desires for exclusion to zone wind power out of the ocean the way we have zoned affordable housing and other needed public facilities out of the land.

¹¹² See *id.*

¹¹³ BUREAU OF EUROPEAN & EURASIAN AFFAIRS, U.S. DEP'T OF STATE, BACKGROUND NOTE: DENMARK (2003) (16,640 square miles).

¹¹⁴ CENSUS BUREAU, *supra* note 109, at tbl. 15 (7840 square miles).

¹¹⁵ The analysis of project alternatives for Cape Wind under NEPA and MEPA can help inform the understanding of large-scale planning issues that affect the siting of offshore wind power. The NEPA and MEPA scopes call for two levels of alternatives analysis. First, there is a screening analysis of potential sites, both on land and water, throughout Massachusetts and New England, to be followed by full-blown analysis of a limited number of sites. Corps Scope, *supra* note 17, at 2–3; MEPA Scope, *supra* note 7, at 17. The Corps has released a report by an independent Peer Review Committee, confirming appropriate screening criteria, including minimum project capacity, wind speeds, wave heights, available land or water area, and access to transmission lines. PEER REVIEW COMM., TECHNICAL REVIEW OF PRELIMINARY SCREENING CRITERIA FOR THE CAPE WIND EIS (2003), <http://www.nae.usace.army.mil/projects/ma/ccwf/prccomments.pdf> (last visited Dec. 5, 2003). Following review of that report, the Corps has now specified that the EIS must include a full-blown alternatives analysis for five water-based and one land-based site: three in Nantucket Sound, one in the open ocean south of Nantucket, one combining turbines in Nantucket Sound and New Bedford Harbor, and one on land at the Massachusetts Military Reservation in Cape Cod. John Leaning, *Corps Considers Six Sites for Wind Farm*, CAPE COD TIMES, Oct. 28, 2003, available at <http://www.capecodonline.com/special/windfarm/corpsconsiders28.htm> (last visited Dec. 5, 2003); see also U.S. ARMY CORPS OF ENG'RS, PUBLIC INFORMATION MEETING 23–27 (Oct. 29, 2003), <http://www.nae.usace.army.mil/projects/ma/ccwf/10-29-briefing.pdf> (last visited Dec. 5, 2003) (slide presentation).

¹¹⁶ See Corps Scope, *supra* note 17, at 2–3.

¹¹⁷ See CLIMATE CHANGE ACTION PLAN 2001, *supra* note 106, at 16.

¹¹⁸ See Corps Scope, *supra* note 17, at 2–3; see also *supra* text accompanying note 38.

IV. THE CULT OF WILDERNESS, OR, ARE ENVIRONMENTAL IMPACTS NECESSARILY ADVERSE?

In closing, I would like to explore an unstated assumption that helps explain the opposition to the project: the cult of wilderness, which presumes that all human impacts on the natural environment are necessarily harmful.¹¹⁹ To understand what I mean by the cult of wilderness, let's look at the rhetoric of opponents to the Cape Wind project. Attorney General Reilly and others have described Nantucket Sound as akin to the "Grand Canyon."¹²⁰ Robert F. Kennedy, Jr. has compared Nantucket Sound to "Yosemite," and said that for many people, "it's their only access to wilderness."¹²¹ Historian David McCullough has said that the wind farm would ruin "one of the most beautiful unspoiled places in all America."¹²²

The Grand Canyon, Yosemite: these are the sacred places of the American cult of wilderness, consecrated in the scriptures of writers beginning with John Muir.¹²³ The legal designation that opponents favor is actually a religious term: "sanctuary."¹²⁴ One reason the wind farm turbines are proposed to be located more than three miles offshore, outside of Massachusetts territorial waters, is that Massachusetts has designated virtually all its coastal areas, with the exception of Boston Harbor, as "ocean sanctuaries," within which the construction or operation of an electrical generating station is prohibited.¹²⁵ Now there is a proposal that the federal waters of Nantucket Sound receive a comparable federal designation as a "marine sanctuary."¹²⁶

¹¹⁹ See RODERICK NASH, *WILDERNESS AND THE AMERICAN MIND* ch. 9 (3d ed. 1982).

¹²⁰ Eric Williams, *Reilly Says Sound Is "Our Grand Canyon,"* CAPE COD TIMES, Apr. 12, 2003, <http://www.capecodonline.com/special/windfarm/reillysays12.htm> (last visited Dec. 5, 2003).

¹²¹ Belluck, *supra* note 92, § 5, at 3.

¹²² John Leaning, *Historian David McCullough Denounces Wind Farm,* CAPE COD TIMES, July 25, 2003, <http://www.capecodonline.com/special/windfarm/historiandavid25.htm> (last visited Dec. 5, 2003). It is worth noting that virtually the entire outer arm of Cape Cod has already received permanent federal open space protection, through the creation of the Cape Cod National Seashore and the Monomoy National Wildlife Refuge. See 16 U.S.C. § 459b (2000) (Cape Cod National Seashore); 16 U.S.C. § 1132 (Monomoy National Wildlife Refuge).

¹²³ See NASH, *supra* note 119, at 122, 156–60.

¹²⁴ Jack Coleman, *Progress Slow on Sound Proposal,* CAPE COD TIMES, Aug. 12, 2003, <http://www.capecodonline.com/special/windfarm/progressslow12.htm> (last visited Feb. 12, 2004).

¹²⁵ MASS. GEN. LAWS ch. 132A, § 15 (2002).

¹²⁶ See Coleman, *supra* note 107. Stellwagon Bank, between Cape Ann and the northern tip of Cape Cod, was designated a federal marine sanctuary in 1992. Oceans Act of 1992, Pub. L. No. 102-587 106 Stat. 5039 (codified at 16 U.S.C. § 1431).

The quasi-religious value we ascribe to wilderness is America's most original contribution to environmentalism.¹²⁷ But as historian William Cronon writes in his essay, *The Trouble with Wilderness*, the cult of wilderness as a sacred place may also be the greatest impediment to our development of a sound attitude toward the natural environment.¹²⁸

The cult of wilderness distorts our perceptions and our actions.¹²⁹ Because designation of a place as a wilderness, an untouched place, may be required for it to receive legal protection, it encourages us to misrepresent the nature of places that we care about, to give them a spurious history free of any human intervention.¹³⁰ Second, the cult of wilderness encourages us to disregard places that do not qualify. Places that have received a visible human imprint are fallen, no longer sacred—and so they are no longer worthy of our protection and love.¹³¹ As Michael Pollan has written: "Americans have done an admirable job of drawing lines around certain sacred areas . . . and a terrible job of managing the rest of our land."¹³²

I would like to draw particular attention to the visual aspect of the cult of wilderness because of its importance in the offshore wind power debate. The Grand Canyon and Yosemite are visual icons. In addition to making pilgrimages to these sacred places, we worship their images: from the paintings of Albert Bierstadt, to the photographs of Ansel Adams, to today's postcards and television travelogues and nature shows. Much of the opposition to the Cape Wind project derives from what we must presume is a sincere and deeply-held belief that the turbine towers are ugly to look at and that introducing these elements into Nantucket Sound will irretrievably damage the visual experience of that place.¹³³

I am not going to argue that aesthetics have no place in environmental impact review because of their inherent subjectivity. As Dorothy Bisbee's article discusses, the regulation of visual appearance is well founded in the law, and it should not necessarily be excluded

¹²⁷ See NASH, *supra* note 119, chs. 3–9.

¹²⁸ William Cronon, *The Trouble with Wilderness*, in UNCOMMON GROUND 69–90 (William Cronon ed., 1995).

¹²⁹ See *id.*

¹³⁰ MICHAEL POLLAN, *SECOND NATURE* 179–80, 186–87 (1991).

¹³¹ See *id.* at 186–88.

¹³² *Id.* ("The reason is not hard to find: the only environmental ethic we have has nothing useful to say about those areas outside the lines.").

¹³³ See *supra* notes 92–98 and accompanying text.

by the NEPA/MEPA process.¹³⁴ But our analysis should acknowledge that our perceptions of beauty and visual impacts are cultural constructs, in a way that physical impacts on birds, or fish, or wave patterns, are not.

As John Costonis has written in *Icons and Aliens*, the demand to regulate aesthetics is rooted in a sense of social dissonance.¹³⁵ Either a sacred structure or landscape (an "icon") is threatened with change or destruction, or there is a proposal to introduce a jarring element (an "alien") into a well-defined context.¹³⁶ Often the two concepts go together and project opponents claim that it is the intrusion of an alien structure that threatens to destroy an iconic landscape.¹³⁷

Yet as Costonis also points out, our notions of what is an icon and what is an alien are highly malleable: "[o]ne generation's alien is the next generation's icon."¹³⁸ In the late nineteenth century, a committee of three hundred concerned citizens organized themselves to try to protect a particularly well-beloved landscape from a large-scale industrial intrusion.¹³⁹ A landscape "without rival in the world" would be "profaned" and subject to "dishonor" due to the construction of a "ridiculously tall tower," which they characterized as "the grotesque, mercantile imaginings of a constructor of machines."¹⁴⁰ The iconic landscape was the city of Paris; the alien was the Eiffel Tower. In a sense, the opponents were right. The Eiffel Tower was wildly out of scale with a predominantly low-rise city; its exposed steel construction jarred with the predominant aesthetic of classical buildings rendered

¹³⁴ Bisbee, *supra* note 98, at 369–73. Courts have limited the importance of aesthetic impacts in NEPA review, relative to physical impacts on the environment. See *River Rd. Alliance, Inc. v. Corps of Eng'rs of U.S. Army*, 764 F.2d 445, 451 (7th Cir. 1985); *Md. Nat'l Capital Park & Planning Comm'n v. U.S. Postal Serv.*, 487 F.2d 1029, 1038–39 (D.C. Cir. 1973). See generally, Bisbee, *supra* note 98, at 370–73.

¹³⁵ See JOHN J. COSTONIS, *ICONS AND ALIENS* 16–19 (1989).

¹³⁶ *Id.* at 46, 51.

¹³⁷ *Id.* at 55–57.

¹³⁸ *Id.* at 62–65.

¹³⁹ NORMA EVENSON, *PARIS: A CENTURY OF CHANGE, 1878-1978*, at 131 (1979) ("This Committee of Three Hundred (one for each proposed meter of the tower) provided certain historians of the modern movement with a classic example of unenlightened reaction. Included in its membership were Bouguereau, Charles Gounod, Massenet, Alexandre Dumas, Sully Prudhomme, J.L.E. Meissonier, J.A.E. Vaudremer, and Charles Garnier.").

¹⁴⁰ *Id.* at 132 (quoting Comm. of Three Hundred, *Au Jour le Jour*, LE TEMPS, Feb. 14, 1887, at 2–3).

in stone.¹⁴¹ And yet the alien has become an icon: today the Eiffel Tower is the most recognizable and best loved symbol of Paris.¹⁴²

Will the Cape Wind turbines someday become an equally well-loved icon of Cape Cod? That may seem improbable—although if press reports are accurate, the Danish public has embraced the Horns Rev wind farm, off Denmark's western coast, and the Middelgrunden wind farm at the mouth of Copenhagen Harbor.¹⁴³ But even in America, different people see very different things when they look at wind turbines. David McCullough, when he imagines the Cape Wind project, sees "a sprawling factory," and "a 24-square-mile city."¹⁴⁴ But Bill McKibben, author of *The End of Nature*,¹⁴⁵ sees something "lovely"; he calls wind turbines "the breeze made visible."¹⁴⁶

As Cronon and Pollan point out, the cult of wilderness springs from the same presumption that haunts the environmental impact review process: that human impacts on the environment always cause harm.¹⁴⁷ There are easy cases where anyone can see that this presumption is wrong, and that human action is needed to undo past damage: the restoration of a tidal flow to a degraded salt marsh, the removal of a dam to restore free flow to a river, the remediation of a brownfield site.¹⁴⁸

Global warming and climate change pose greater challenges to the ways in which environmental laws weigh the impacts of human actions.¹⁴⁹ The environmental impact of fossil fuel power has already

¹⁴¹ See *id.*

¹⁴² More than 200 million people have visited the Eiffel Tower since its construction. THE OFFICIAL SITE OF THE EIFFEL TOWER, FACTS & FIGURES, at <http://www.tour-eiffel.fr/teiffel/uk/documentation/chiffres/index.htm> (last visited Dec. 5, 2003).

¹⁴³ See Charles Sennott, *Denmark's Windmills Flourish as Cape Cod Project Stalls*, BOSTON GLOBE, Sept. 27, 2003, at A1.

¹⁴⁴ See Leaning, *supra* note 122. Note how the use by project opponents of terms such as "factory" or "industrial" structures misleadingly imply that wind turbines are somehow spewing pollutants into the environment, like a fossil-fueled factory or powerplant. See *id.*

¹⁴⁵ BILL McKIBBEN, *THE END OF NATURE* (1999).

¹⁴⁶ BILL McKIBBEN, *ENOUGH: STAYING HUMAN IN AN ENGINEERED AGE* 115 (2003).

¹⁴⁷ See POLLAN, *supra* note 130, at 188 ("[T]he wilderness ethic can't make distinctions between one kind of intervention in nature and another—between weeding Cathedral Pines and developing a theme park there."); Cronon, *supra* note 128, at 83.

¹⁴⁸ Cronon, *supra* note 128, at 87 (citing *THIS IS DINOSAUR: ECHO PARK COUNTRY AND ITS MAGIC RIVERS* 17 (Wallace Stegner ed., 1955)).

¹⁴⁹ Countless data support the theory of global warming. See, e.g., GALE E. CHRISTIANSON, *GREENHOUSE: THE 200-YEAR STORY OF GLOBAL WARMING* (1999) (examining social, historical, and scientific data in support of the theory). Federal policies in response to the issue remain uncertain. See James Sterngold, *State Officials Ask Bush to Act on Global Warming*, N.Y. TIMES, July 17, 2002, at A2. For regional policies in New England, see CLIMATE CHANGE ACTION PLAN 2001, *supra* note 106.

occurred, and it continues today.¹⁵⁰ Even if we were to reduce carbon emissions dramatically, atmospheric concentrations and global temperatures would continue to increase for decades.¹⁵¹ A recent study predicts that global warming could cause the extinction of between fifteen and thirty-seven percent of all species worldwide.¹⁵² More locally, the New England Regional Assessment describes a wide range of future impacts due to climate change, from coastal flooding and salt-water intrusions into drinking water aquifers, to the disappearance of the region's spruce-fir and maple-beech-birch forests.¹⁵³ The wildlife and industries that depend on these ecosystems—from tourism to maple sugaring—may disappear, too.¹⁵⁴ It is increasingly clear that the only way to restore the environmental damage we have already done, to Massachusetts, to New England, and to the planet, will be to carry out a sweeping and wrenching shift from our reliance on fossil fuels to a reliance on wind power and other renewable energy sources.¹⁵⁵

Existing environmental laws have difficulty balancing the regional, statewide, national, and even international benefits of wind power and other renewable energy facilities against their localized impacts, real and perceived.¹⁵⁶ To use the terminology of environmental impact review, we need to think of wind power and other renewable energy projects as "mitigation measures," that will offset or even reverse the otherwise unavoidable negative impacts of carbon emissions from fossil-fuel power production.¹⁵⁷

¹⁵⁰ A broad scientific consensus supports the causal link between industrial uses of fossil fuel, rising atmospheric concentrations of carbon dioxide and other greenhouse gases, and global trends of warming temperatures and other climate changes. See generally CHRISTIANSON, *supra* note 149.

¹⁵¹ IPCC WORKING GROUP I, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, SUMMARY FOR POLICYMAKERS 12–17 (2001), <http://www.ipcc.ch/index.htm> (last visited Jan. 25, 2004).

¹⁵² James Gorman, *Scientists Predict Widespread Extinction by Global Warming*, N.Y. TIMES, Jan. 8, 2004, at A4.

¹⁵³ U.S. GLOBAL CHANGE RESEARCH PROJECT, THE NEW ENGLAND REGIONAL ASSESSMENT OF THE POTENTIAL CONSEQUENCES OF CLIMATE VARIABILITY AND CHANGE 42, 57, 66–67 (March 2002).

¹⁵⁴ *Id.* at 51, 98–104.

¹⁵⁵ See CLIMATE CHANGE ACTION PLAN 2001, *supra* note 106, at 4–5.

¹⁵⁶ See NEPA, 42 U.S.C. §§ 4321–4347 (2000); MEPA, MASS. GEN. LAWS ch. 30, §§ 61–62H (2002).

¹⁵⁷ See 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1505.2(c), 1505.3 (2003) (requirements to study, monitor, and enforce mitigation measures in NEPA process); MASS. REGS. CODE tit. 301, § 11.12(5)(a) (2003) (requirement that proponents shall minimize and mitigate damage to environment to maximum extent practicable in MEPA process).

The MEPA scope for the Cape Wind project addresses this problem directly. The scope requires the EIS/EIR to describe the impacts, including increased air pollution and GHG emissions, of a “no build” baseline alternative that presumes the generation of the same level of electricity by a conventional fossil-fuel powerplant.¹⁵⁸ The scope would ensure that the environmental benefits of wind power generation would be part of the record for public and agency review.¹⁵⁹ This approach to the baseline should be a standard part of the analysis of any wind power project, and a part of the technical studies for any regime of ocean management and regulation.¹⁶⁰

But we may need to go still further. Any good regulatory system needs carrots as well as sticks.¹⁶¹ Environmental laws should contain positive incentives to do the right thing, and not just punish the wrongdoer.¹⁶² Maybe we need to define a category of projects that would file Environmental Benefit Statements, rather than Environmental Impact Statements.¹⁶³

For the ultimate challenge of the wind power debate is a moral challenge: a challenge to us to recognize, accept, and embrace the full implications of our actions. We congratulate ourselves much too easily in Massachusetts on our enlightened environmental attitudes, policies, and laws. We are fooling ourselves. We are no wiser, or better, than anyone else. If our environmental laws are more protective, that is because we happen to live, through historical accident, in a place that no longer has natural resources worth exploiting.¹⁶⁴ But through our consumer choices, we harm the environment every day. We drill for oil in the Gulf of Mexico; we cut down rain forests in the Amazon and the Pacific Northwest; we dump industrial wastes in the rivers of

¹⁵⁸ MEPA Scope, *supra* note 7, at 5–6.

¹⁵⁹ *See id.*

¹⁶⁰ Bisbee, *supra* note 98, at 358–67.

¹⁶¹ *See, e.g.,* MODEL LAND DEV. CODE § 7-301(4) (1975) (providing that the state can override a municipality’s disapproval of “development of regional benefit”).

¹⁶² *See id.*

¹⁶³ *See id.*; FLA. STAT. ch. 380.06(3) (2003) (similar statute); WASH. REV. CODE ANN. § 36.70A.200(2) (West 2003) (local land use plans and regulations cannot veto “essential public facilities”); James H. Wickersham, *The Quiet Revolution Continues: The Emerging New Model for State Growth Management Statutes*, 18 HARV. ENVTL. L. REV. 489, 521–22, 544–45 (1994). As Bisbee points out, NEPA’s mandate includes positive actions to “enhance the quality of renewable resources” and to “promote the improvement of environmental quality.” *See* Bisbee, *supra* note 98, at 353, 356 (citing 42 U.S.C. §§ 4331(b), 4344 (2000)).

¹⁶⁴ On the historical relationship between shifts in the Massachusetts economy and its impacts on the environment, see MASS. EXECUTIVE OFFICE OF ENVTL. AFFAIRS, THE STATE OF OUR ENVIRONMENT 6–20 (2000).

India and China; we raise sea levels and flood Pacific atolls.¹⁶⁵ We just do not happen to see any of those consequences at first hand. Through the workings of the global economy, they take place in other people's backyards, not in ours.

So when we are confronted with a choice that has real consequences, environmentally and morally, for our own backyards and our own daily lives, how will we choose? The Nantucket Sound wind farm poses us that question. I trust that we will choose wisely and well. In the future, when we look upon a landscape or a seascape with wind turbines in it, perhaps we won't see a fallen, sinful, desecrated landscape. Perhaps we will see a landscape of hope. Perhaps we will see the landscape of our own salvation.

¹⁶⁵ For early analysis of the environmental impacts of consumer spending, see generally RACHEL CARSON, *SILENT SPRING* (1994 ed.).

